USB Type-C ENGINEERING CHANGE NOTICE

Title: USB4 VCONN U3 State
Applied to: USB Type-C Specification Release 2.0, August 2019

Brief description of the functional changes proposed:
Briefly clarifies that Vconn power when in U3 can increase to Max U0 power during the transition from U3 to U0.

Benefits as a result of the proposed changes:
This will allow active cables to have sufficient Vconn power to be able to properly transmit messages such as a U3 Exit LFPS.

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
No clear definition for this before, as far as know all design meet this limitation.

An analysis of the hardware implications:
No implication assume implementation meet the target.

An analysis of the software implications:
No implication

An analysis of the compliance testing implications:
None

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Actual Change Requested

(a). Section X.X.X, Table/Figure X-XX (if applicable), Page X-XX

From Text:

Table 4-5 VCONN Source Characteristics

	Minimum	Maximum	Notes
vVCONNValid	3.0 V	5.5 V	The voltage range over which VCONN is considered valid.
Power for Sources with TX/RX Signals	x1 1 W		Source may latch-off VCONN if excessive power is drawn beyond the specified inrush and mode wattage. Source may disable VCONN per Table 4-4. Alternate modes may require higher power.
	x2 1.5 W		
Power for Sources with VPD support	1 W		Source may latch-off VCONN if excessive power is drawn beyond the specified inrush and mode wattage.
Power for Sources in USB Suspend or without TX/RX Signals	100 mW		Minimum power Source must provide in USB Suspend or without TX/RX signals. Source may disable VCONN per Table 4-4.
Rdch	30 Ω	6120 Ω	Discharge resistance applied in UnattachedWait.SRC between the CC pin being discharged and GND

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Power for Sources with VPD support	1 W		Source may latch-off VCONN if excessive power is drawn beyond the specified inrush and mode wattage.

Power for Sources in USB Suspend or without TX/RX Signals	100 mW		Minimum power Source must provide in USB Suspend or without TX/RX signals.[1] Source may disable VCONN per Table 4-4.
Rdch	30 Ω	6120 Ω	Discharge resistance applied in UnattachedWait.SRC between the CC pin being discharged and GND

Notes:

1) During transition from U3 to U0, Vconn source shall provide up to max U0 power.